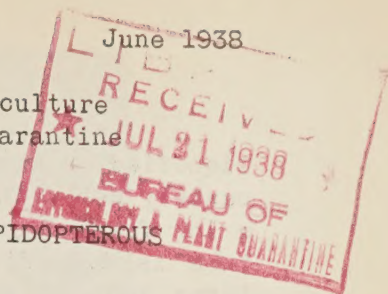


Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

United States Department of Agriculture
Bureau of Entomology and Plant Quarantine



APPARATUS AND METHOD FOR FILLING LEPIDOPTEROUS
LARVAE WITH WAX

J. C. Silver, Division of Japanese Beetle Control

The better to preserve naked lepidopterous larvae for exhibit purposes, the writer has found that specimens in more lifelike and usable condition may be obtained by filling them with a wax mixture consisting of two-thirds ordinary paraffin and one-third bleached beeswax. Beeswax is used to raise the melting point of the mixture, as paraffin melts at a rather low temperature. If the larvae are colored, ordinary wax crayon may be added to the wax mixture to give each specimen its particular hue. The rate of filling is much more rapid, and more nearly perfect specimens are obtained than by the air-inflation method.

The inexpensive but very efficient apparatus for this work consists of the following: A 6-inch piece of glass tubing one-fourth inch in diameter, one end being drawn to a fine tip; a clamp to hold larva to tip; a cautery set; and an alcohol lamp. Bleached beeswax and ordinary paraffin make up the wax mixture, and any wax crayons of the proper hue will do for the coloring. The items included in this apparatus are pictured in figure 1.

Larvae may be prepared in the following manner for filling with wax: Make a small incision at the anal end, or rupture the anus with a pin. Then, laying the larva on blotting paper, squeeze the viscera through this opening by carefully rolling the larva with a lead pencil, beginning in the middle and gradually working toward the front until the viscera are entirely removed.

As soon as the wax is mixed and melted in any convenient receptacle, the mixture may be sucked into the glass tube. The tube should be only half filled. Since the wax in the tube becomes solidified very quickly, there should be no trouble in placing the previously prepared larva over the drawn tip. The cautery set is then attached to the glass tube and the glass heated until the wax in the upper part of the tube is again

liquefied. A slight constant pressure is developed in the cautery set. The tip of the glass is then moved rapidly over a low flame from the alcohol lamp until the wax in the entire tube is liquefied and flows into and fills the larva. The larva and tip of the glass tube are then immediately dipped into cold water, which hardens the wax in the larva and tip, thus stopping the flow of wax and permitting removal of the larva and its replacement with another specimen. The wax should not be permitted to become too hot.

Larvae that are to be placed in irregular tunnels may be softened by dipping them in hot water and bent to any desired shape so that they will present a more natural appearance. A number of European corn borer larvae prepared in this manner are shown in figure 2.

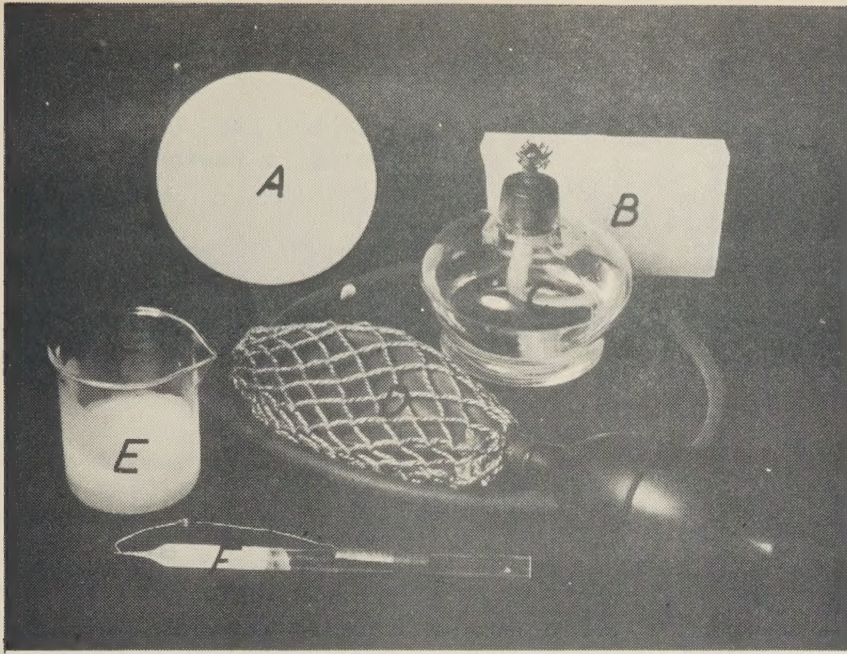


Figure 1.--Apparatus used in wax inflation. A, bleached beeswax. B, ordinary paraffin. C, alcohol lamp. D, cauterizing set. E, wax mixture. F, glass tube with clamp.

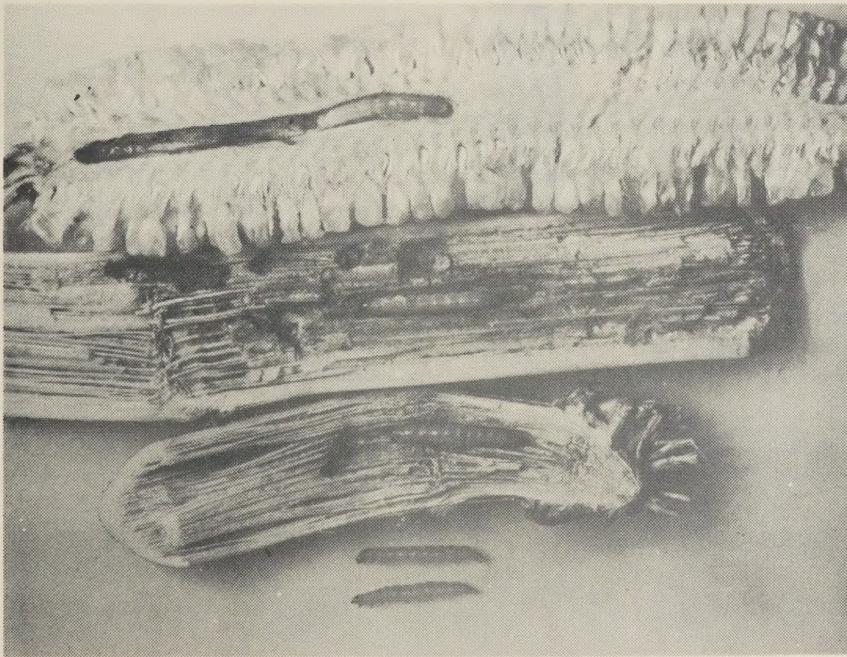


Figure 2.--Wax-filled European corn borer larvae.

